

**From:** Sidon, Joshua  
**To:** [Miller, Ann](#)  
**Cc:** [Simon, Benjamin](#)  
**Subject:** Re: IMPLAN analysis  
**Date:** Friday, May 26, 2017 10:50:12 AM  
**Attachments:** [BearsEars\\_05262017.xlsx](#)

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Here you go. It might be worth hopping on the phone to discuss if you have a minute. Thanks,

Josh

On Fri, May 26, 2017 at 8:29 AM, Sidon, Joshua <[jsidon@blm.gov](mailto:jsidon@blm.gov)> wrote:

On it. I'll get you something shortly.

Josh

On Fri, May 26, 2017 at 8:10 AM, Miller, Ann <[ann\\_miller@ios.doi.gov](mailto:ann_miller@ios.doi.gov)> wrote:

Great, thanks Josh. For the AUMs, they are billed AUMs. I don't actually know if there are sheep or goats but based on our talk with Julie last week, I'm guessing it's similar to GSE and therefore predominantly cattle.

For sand and gravel - whatever is easiest.

So I actually need to turn in a draft of this paper by noon eastern time - is it at all possible to have some estimates by then? No worries if not.

Thanks so much!

Ann

On Fri, May 26, 2017 at 10:05 AM, Sidon, Joshua <[jsidon@blm.gov](mailto:jsidon@blm.gov)> wrote:

Hi Ann,

Sure, I can help out.

Do you know if the AUMs you received are the active AUMs on their permits or the number of AUMs they billed? I typically use billed AUMs since it is the best proxy for actual use. I'm assuming these AUMs are solely for cattle and do not include other livestock (most importantly, sheep or goats). I'll probably use the same approach as we use for the annual analysis. That means I'll be using state-level multipliers. As I mentioned to Ben last week, I'm a bit uneasy about that approach since ranching operations and practices are fairly nuanced at the local levels. That said, it is a reasonable first estimate.

With respect to sand and gravel, are you ok with me running estimates through the state model or would you like me to run a multi-county model (covering the field office)?

Do you need these results today?

Josh

On Thu, May 25, 2017 at 4:28 PM, Miller, Ann <[ann\\_miller@ios.doi.gov](mailto:ann_miller@ios.doi.gov)> wrote:

Hi Josh,

I was wondering if you could run a quick IMPLAN analysis for us to have some economic contribution estimates of some of the non-recreation activities at what is now Bears Ears National Monument? It would just be for grazing and sand/gravel production. We have the following production levels for 2016 from the Monticello field office:

Grazing: 36,402 AUMs

Sand & gravel (this is actually for 2015): 2,914 cu yd

For the sand & gravel, could you also run an analysis on a production level of 21,396 cu yds? That's the five year average. I think 2015 was the final year of the 10-year time span that the 200,000 cu yd maximum covers so that level of production may have been an outlier.

Let me know if you need more information or clarification.

Thanks!

Ann

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Grazing:

|                 |       |           | Response Coefficients per 1,000 AUMs |                    |       |                        |                    |             |                  |                    |              |
|-----------------|-------|-----------|--------------------------------------|--------------------|-------|------------------------|--------------------|-------------|------------------|--------------------|--------------|
|                 |       |           | Employment (full and part time jobs) |                    |       | Labor Income (2013 US) |                    |             | Output (2013 US) |                    |              |
|                 |       |           | Direct                               | Indirect & Induced | Total | Direct                 | Indirect & Induced | Total       | Direct           | Indirect & Induced | Total        |
| FY16 Billed Use | State | Livestock |                                      |                    |       |                        |                    |             |                  |                    |              |
| 36,402 AUMs     | Utah  | Cattle    | 3.3                                  | 1.1                | 4.4   | \$7,906.76             | \$35,654.17        | \$43,560.94 | \$77,628.58      | \$113,434.79       | \$191,063.37 |

| Calendar Year | GDP Deflator |             |
|---------------|--------------|-------------|
|               | Index        | Mult (2016) |
| 2013          | 106.9        | 1.04        |
| 2014          | 108.8        | 1.02        |
| 2015          | 110.0        | 1.01        |
| 2016          | 111.4        | 1.00        |

FY2016 Contribution (Cattle)

| Unit       | Employment |                    |       | Labor Income |                    |             | Output      |                    |             |
|------------|------------|--------------------|-------|--------------|--------------------|-------------|-------------|--------------------|-------------|
|            | Direct     | Indirect & Induced | Total | Direct       | Indirect & Induced | Total       | Direct      | Indirect & Induced | Total       |
| Bears Ears | 121        | 40                 | 161   | \$300,009    | \$1,352,839        | \$1,652,848 | \$2,945,489 | \$4,304,097        | \$7,249,587 |

NOTE: job estimates included unpaid labor.

FY2016 - Summary of Salable Minerals

| Unit       | Sand & Gravel |        | Price        |
|------------|---------------|--------|--------------|
|            | cubic yards   | tons   |              |
| Bears Ears | 2 914         | 4 741  | \$7.72       |
|            | 21 396        | 34 813 | \$268 755.48 |

Source:

USGS. 2016. Mineral Commodity Summaries 2016. Accessed at: <http://minerals.usgs.gov/minerals/pubs/mcs/>

| Conversion factors used by LR2000 report |   |
|--|---|
|  | cy to tons (i.e. number of tons per cy) |
| Commodity                                |   |
| Sand & Gravel                            | 1.62707452                              |

OUTPUTS

IMPLAN Year 5 - INPUT FROM FEAT

|                             | EMPLOYMENT (NUMBER OF JOBS) |          |         |       | LABOR INCOME (\$) |          |          |          | TOTAL Value Added (\$) |          |          |           | TOTAL OUTPUT (\$) |           |          |           |
|-----------------------------|-----------------------------|----------|---------|-------|-------------------|----------|----------|----------|------------------------|----------|----------|-----------|-------------------|-----------|----------|-----------|
|                             | Direct                      | Indirect | Induced | Total | Direct            | Indirect | Induced  | Total    | Direct                 | Indirect | Induced  | Total     | Direct            | Indirect  | Induced  | Total     |
| Sand and gravel mining - 31 | 0.1                         | 0.1      | 0.1     | 0.3   | \$5 121           | \$4 524  | \$2 681  | \$12 325 | \$20 160               | \$7 865  | \$4 886  | \$32 911  | \$36 185          | \$15 340  | \$8 942  | \$60 467  |
| Sand and gravel mining - 31 | 1.1                         | 0.5      | 0.5     | 2.1   | \$37 599          | \$33 216 | \$19 683 | \$90 497 | \$148 024              | \$57 751 | \$35 872 | \$241 647 | \$265 688         | \$112 637 | \$65 657 | \$443 982 |

INFATE (multiplier)  
(2015 --> 2016)

1.013109329

OUTPUTS

2016\$

|                             | EMPLOYMENT (NUMBER OF JOBS) |          |         |       | LABOR INCOME (\$) |          |          |          | TOTAL Value Added (\$) |          |          |           | TOTAL OUTPUT (\$) |           |          |           |
|-----------------------------|-----------------------------|----------|---------|-------|-------------------|----------|----------|----------|------------------------|----------|----------|-----------|-------------------|-----------|----------|-----------|
|                             | Direct                      | Indirect | Induced | Total | Direct            | Indirect | Induced  | Total    | Direct                 | Indirect | Induced  | Total     | Direct            | Indirect  | Induced  | Total     |
| Sand and gravel mining - 31 | 0.1                         | 0.1      | 0.1     | 0.3   | \$5 188           | \$4 583  | \$2 716  | \$12 487 | \$20 424               | \$7 968  | \$4 950  | \$33 342  | \$36 659          | \$15 541  | \$9 059  | \$61 260  |
| Sand and gravel mining - 31 | 1.1                         | 0.5      | 0.5     | 2.1   | \$38 091          | \$33 651 | \$19 941 | \$91 684 | \$149 965              | \$58 508 | \$36 342 | \$244 815 | \$269 171         | \$114 113 | \$66 518 | \$449 802 |